Kuta Software - Infinite Geometry

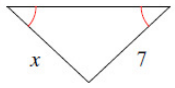
Name_____

Isosceles and Equilateral Triangles

Date_____ Period____

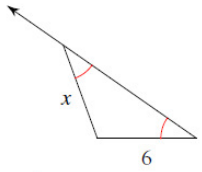
Find the value of *x*.

1)



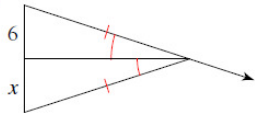
7

2)



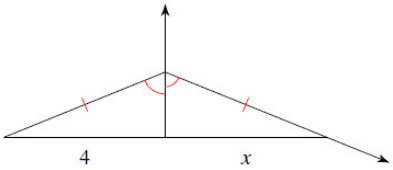
6

3)



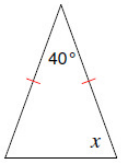
6

4)



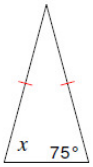
4

5)



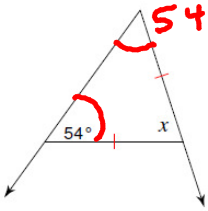
70°

6)



75°

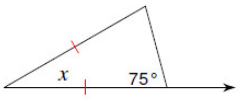
7)



108+x=180
x=72

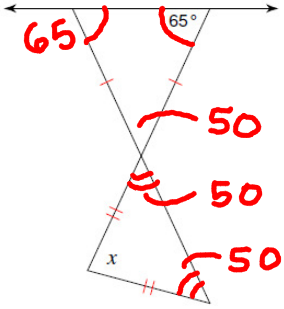
72°

8)



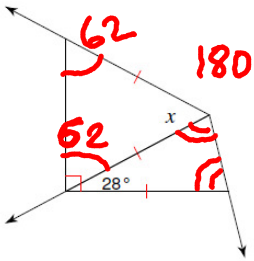
30°

9)



80° =x

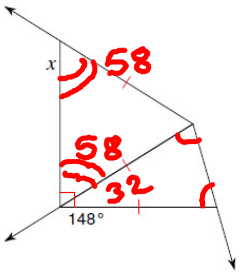
10)



180-124=
56

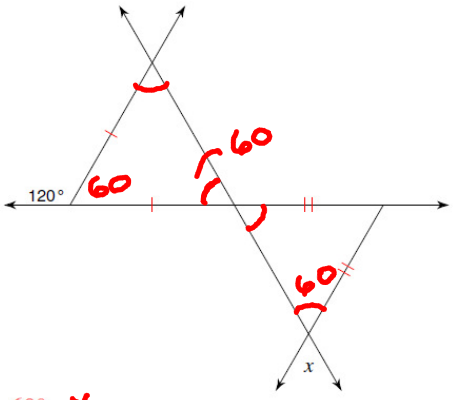
56°

11)



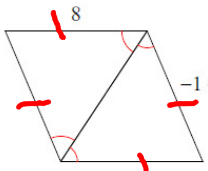
122° = x

12)



60° = x

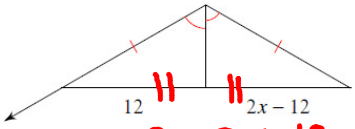
13)



8 = −1 + x
+1 +1
9 = x

9

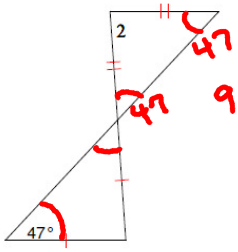
14)



12

12 = 2x − 12
24 = 2x
x = 12

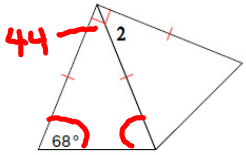
15) $m\angle 2 = x + 94$



∠2
94 + x + 94 = 180
188 + x = 180
x = −8

−8

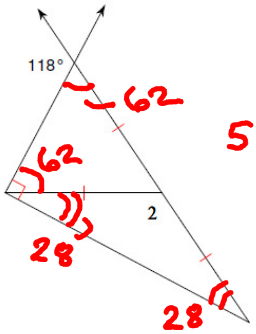
16) $m\angle 2 = 4x - 2$



12

44 + 4x − 2 = 90
42 + 4x = 90
4x = 48
x = 12

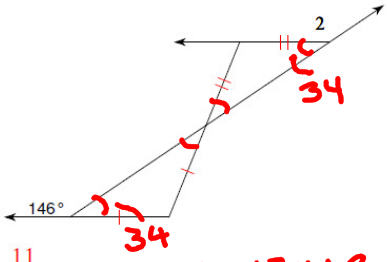
17) $m\angle 2 = 12x + 4$



m∠2
56 + 12x + 4 = 180
60 + 12x = 180
12x = 120
x = 10

10

18) $m\angle 2 = 13x + 3$

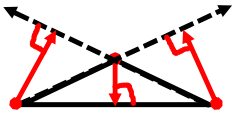


11

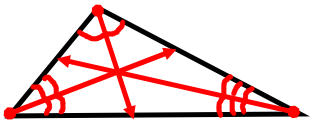
146 = 13x + 3
143 = 13x
11 = x

- A **median** is a segment that connects a vertex of a triangle to the midpoint of the opposite side.

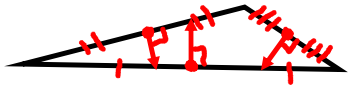
- An **altitude** is a segment that has one endpoint at a vertex of a triangle and the other endpoint on the line containing the opposite side so that the altitude is perpendicular to that line.



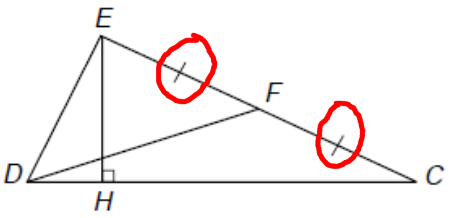
- An **angle bisector** of a triangle is a segment that bisects an angle of the triangle and has one endpoint at the vertex of that angle and the other endpoint on the side opposite that vertex.



- A **perpendicular bisector** is a segment or line that passes through the midpoint of a side and is perpendicular to that side.

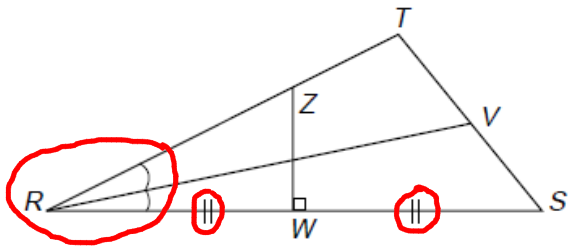


1



$\overline{DF}$ is a median of $\triangle DEC$.
$\overline{EH}$ is an altitude of $\triangle DEC$.

2



$\overline{RV}$ is an angle bisector of $\triangle RST$.
$\overline{WZ}$ is a perpendicular bisector of side $\overline{RS}$.